Chloride by Mercuric Nitrate Method **Page 1 of 1**
SM 18th/19th/20th Ed. 4500-Cl⁻ C

Relevant Aspect of Standards	Reference	Y	N	N/A	Comments
Records Examined: SOP Number/ Revision/ Date _____ Analyst:_____ Sample ID: _____ Date of Sample Preparation:_____ Date of Analysis:_____					
For samples with chloride below 100 mg/L:					
Is standard mercuric nitrate titrant standardized to 0.0141N?	C.3.d.2				
If using indicator reagent with nitric acid in it, is the concentration of HNO_3 sufficient to result in a sample pH of 2.5 ± 0.1 after addition of the reagent?	C.3.d.1)b				
If using indicator reagent without nitric acid in it, are sample pHs adjusted to 2.5 ± 0.1 using a pH meter with a non-chloride type of reference	C.3.d.1)b				
Is an appropriately sized aliquot of sample titrated? Use 100 mL sample or less, so that chloride content is less than 10 mg.	C.4.a				
If using indicator reagent with nitric acid in it, are highly alkaline or acidic samples adjusted to a pH of about 8 before adding reagent?	C.4.a				
Is 1 mL of indicator reagent added to sample?	C.4.a				
Are samples then titrated with 0.0141N mercuric nitrate to a purple endpoint?	C.4.a				
Is a blank determined by titrating 100 mL distilled water containing 10 mg $NaHCO_3$ (sodium bicarbonate)?	C.4.a				
For samples with chloride above 100 mg/L:					
Is strong standard mercuric nitrate titrant standardized to 0.141N?	C.3.e.2				
Is an appropriately sized aliquot of sample titrated? Use 5-50 mL sample, to require less than 5 mL titrant.	C.4.b				
Is 0.5 mL of indicator reagent added to sample?	C.4.b				
Following the addition of indicator reagent, is 0.1N HNO_3 added dropwise until the color just turns yellow?	C.4.b				
Are samples then titrated with 0.141N with mercuric nitrate until a permanent dark purple endpoint is reached?	C.4.b				
Is a distilled water blank titrated using the same procedure?	C.4.b				
For all samples:					
Are results calculated using the following formula? $mg\ Cl^-/L = \frac{(A-B) \times N \times 35{,}450}{mL\ sample}$ where A = mL titrant used for sample B = mL titrant used for blank N = normality of mercuric nitrate *Note: results can be converted to mg NaCl/L:* mg NaCl/L = (mg Cl^-/L) x 1.65	C.5				
Notes/Comments					